

# ATLANTIC RICHFIELD COMPANY

## RFC - REQUEST FOR CHANGE

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|--|---------------------------------|---|---------|
| June 17, 2019  | RFC NO.<br>BPSOU-MWR OMM-RFC-01 | CONTRACTOR<br>Pioneer Technical Services, Inc.                                    | RFP NO. |
| CONTRACT DESCRIPTION:<br>Butte Mine Waste Repository O&M Manual  |                                 | ATTENTION OF:<br>Eric Hassler/Josh Bryson   |         |
| SUBJECT:<br><input type="radio"/> ELECTRICAL <input type="radio"/> MECHANICAL <input checked="" type="checkbox"/> CIVIL <input type="radio"/> STRUCTURAL/ARCHITECTURAL <input type="radio"/> INSTRUMENTATION   |                                 |   |         |
| OPERABLE UNIT: Butte Priority Soils<br>MAJOR WORK TASK: Butte Mine Waste Repository O&M Manual – Disposal of soils containing hydrocarbons.  |                                 | REFERENCE DWG, P.O., TAG, SPECIFICATION NO. (FOR DEVIATIONS OR DEFICIENCIES) ETC: |         |
| <p><b>PROBLEM DESCRIPTION:</b></p> <p>In 2018, Pioneer Technical Services, Inc. (Pioneer) began field investigation activities at the Butte Reduction Works (BRW) Smelter Area Site (BRW Site) to refine the characterization of groundwater and solid materials within the site. The work was completed on behalf of Atlantic Richfield Company (Atlantic Richfield) and in accordance with the approved BRW Phase I Quality Assurance Project Plan (QAPP) (Atlantic Richfield, 2018) (BRW Phase I QAPP). During the field investigation activities, hydrocarbons were detected in a portion of the soils (via photoionization detector [PID] instruments). After hydrocarbons were detected, a temporary bermed containment area, lined with low-density polyethylene plastic sheeting (“visqueen”), was set up on the site to temporarily store the soils with detectable hydrocarbons. Once field investigation activities were completed for 2018, water was removed from the containment area and the soils were placed in a temporary waste disposal container lined with visqueen and covered with a disposable tarp.</p> <p>Atlantic Richfield proposes to transport these soils from the BRW Site to the Butte Mine Waste Repository (MWR) for treatment and disposal. Based on laboratory analyses, the hydrocarbon concentrations of the soil exceed the threshold requirements to be disposed of at the MWR without treatment, as described in the MWR Operations and Maintenance (O&amp;M) Manual (Atlantic Richfield, 2015). The MWR O&amp;M Manual states that materials excavated and removed from Federal Superfund sites associated with the Butte Priority Soils Operable Unit (BPSOU) to remediate mining and smelting waste will be accepted for disposal at the MWR; however, waste containing total hydrocarbon concentrations (the sum of Total Extractable Hydrocarbons [TEH] plus Total Purgeable Hydrocarbons [TPH]) above 100 parts per million (ppm) “could disqualify materials from being placed at the MWR” (Atlantic Richfield, 2015). Therefore, Atlantic Richfield proposes to treat the soils using landfarming, which will be conducted in accordance with the Administrative Rules of Montana (ARM) Title 17, Chapter 50, Sub-Chapter 16, Landfarm License and Operation Standards (ARM 17.50.16). Butte-Silver Bow (BSB) will construct a bermed area on the upper deck of MWR to landfarm the material until the concentrations are below the required limits listed in the <i>Montana Risk-Based Corrective Action Guidance for Petroleum Releases</i> (DEQ, 2018) (see Table 2) or when the total hydrocarbon concentrations (the sum of TEH plus TPH) are below 100 ppm. Documentation of lab results and landfarming activities will be included in a closure plan, which will be submitted to the Agencies at the conclusion of landfarming activities, to provide written verification of the remediated soils from the BRW Site.</p> <p>The sections below outline the intended activities to treat and dispose of the soils at the MWR.</p> <p><b>Transportation:</b> All material will be transported from the BRW Site to the MWR in compliance with the guidelines spelled out in <i>Butte Silver Bow Excavation and Dirt Moving Protocols</i> (BSB, 2013) using the heavy truck route described in the MWR O&amp;M Manual (Atlantic Richfield, 2015). The route goes north up Excelsior Avenue, turns west on Ryan Road around Walkerville, and continues south on Seraph Pt. until reaching Bernie’s Way to MWR.</p> <p><b>Treatment:</b> The soil will be remediated using one-time landfarming management techniques. This effort will be conducted in accordance with the Landfarm License and Operation Standards (ARM 17.50.16) and the Montana Department of Environmental Quality (DEQ) <i>Guidelines for Licensing One-Time Landfarms for the Remediation of Hydrocarbon Contaminated Soils</i> (DEQ, 2016) (DEQ Landfarming Guidelines). The total estimated quantity of these materials is 10 to 15 cubic yards and, therefore, meets the volumetric threshold for landfarming under this guidance of less than 2,400 cubic yards.</p> |                                 |   |         |



As per the DEQ Landfarming Guidelines, the following procedures will be completed:

1. Collection of background samples: Prior to placement of the soil, a background surface soil sample will be collected from the undisturbed soil within the treatment area to establish background concentrations at the MWR. The background sample will be collected as a 5-point composite sample from 0 to 2 inches below ground surface (bgs). An additional 5-point composite sample will be collected of the soils from the BRW Site to establish baseline concentrations that remain in the soils.
2. Removal of cobbles and rock: BSB will select an area in the upper deck of the MWR, approximately 20 feet by 30 feet, to place the soils. BSB will remove rocks and cobbles that could delay landfarming procedures.
3. Spreading of soil and construction of a berm around the site: BSB will construct a berm around the soils to prevent surface water run-on and runoff. Soil will be spread in a thin layer (maximum thickness of 6 inches) at the selected site on the upper deck. The soil will be mechanically turned over periodically (approximately monthly) during the warm months (May to October). Signage and precautions will be installed to ensure the berm and soils are not disturbed.
4. Collection of verification/progression samples: During landfarming, soil samples will be collected from both the contaminated soils and beneath the treatment area in May, July, and October to determine the progress of the landfarming treatment and verify there is no migration of leaching constituents.
5. Addition of products: It is anticipated that the addition of mixtures or other products will not be necessary. If it is determined that the constituents within the soils are not degrading at an appropriate rate, addition of products may be considered.
6. Closure of the landfarm site: Atlantic Richfield is proposing to dispose of the soils and close the landfarm once the constituents in the soils are below the standards listed in the *Montana Risk-Based Corrective Action Guidance for Petroleum Releases* (DEQ, 2018) (see Table 2) or when the total hydrocarbon concentrations (the sum of TEH plus TPH) are below 100 ppm. When concentrations are below required limits, the waste will be disposed within the MWR in a location agreed upon by Atlantic Richfield and BSB. A closure report will be submitted to the Agencies following the closure of the landfarm site and will include all applicable information required in ARM 17.50.1618.

**Laboratory Analysis:** All samples will be sent to Energy Laboratories, Inc. (Energy) for analysis of select metals; extractable petroleum hydrocarbons (EPH); volatile petroleum hydrocarbons (VPH); benzene, toluene, ethylbenzene, and xylene (BTEX); methyl tert-butyl ether (MTBE); 1,2-dichloroethane (1,2 DCA); and 1,2-dibromoethane (1,2 EDB). Table 1 (included with this RFC) includes the detailed analyte list and a description of each analytical technique.

All analytical results will be kept on record and used to adjust the number and frequency of soil samples to be collected, if necessary, and to determine when treatment is complete.

#### **Documentation:**

Data results will be managed in accordance with *BPSOU Final Draft Data Management Plan* (Atlantic Richfield, 2017). These records (hard or electronic copies) will include, but not be limited to, the following:

- One-Time Landfarm License Application with applicable information completed and attachments included (included as Attachment 1).
- Field documentation (including logbooks and photographs) in accordance with standard operating procedure (SOP) SOP-SA-05.
- Chain of custody records in accordance with SOP-SA-04.
- Laboratory documentation (results received from the laboratory will be documented in hard and electronic format).

Field and laboratory documents will be maintained to determine the progress of landfarming activities at the MWR. A closure plan will be submitted to the Agencies following the closure of the landfarm site and will include documentation required by ARM 17.50.1618.

**NOTE:** The intention of this effort is to meet the intent of the DEQ Landfarming Guidelines under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the effort will be documented through the completion of the previously listed license application and field documentation. As such, Atlantic Richfield will not be submitting these materials to the DEQ Solid Waste Program.

#### **Quality Assurance/Quality Control**

Quality assurance details for this project are included in the BRW Phase I QAPP (Atlantic Richfield, 2018).



## RFC Organization and Responsibilities

The roles and responsibilities of key individuals comprising the project team for this RFC have been identified in the BRW Phase I QAPP (Atlantic Richfield, 2018).

## Schedule

Transport of materials to the MWR and landfarming activities at the MWR are anticipated to begin in the spring of 2019 and will proceed until completed. The landfarming effort is expected to take approximately 2 years. Potential constraints that could delay completion of the landfarming effort are directly related to the degradation rate of the hydrocarbon constituents to levels acceptable to the MWR. The landfarm progress will be recorded in the field logbooks and reported to the Agencies on an annual basis.

## Tables:

Table 1: Sample Collection, Preservation, and Holding Times

Table 2: Montana's Risk-Based Screening Level Disposal Criteria

## Attachments:

Attachment 1: One-Time Landfarm License Application

## References:

Atlantic Richfield Company, 2015. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit Final 2015 Butte Mine Waste Repository Operation and Maintenance (O&M) Manual. Prepared by Pioneer Technical Services, Inc. December 2, 2015.

Atlantic Richfield Company, 2017. Butte Priority Soils Operable Unit (BPSOU) Final Draft Data Management Plan (DMP). Prepared by TREC Inc. December 22, 2017.

Atlantic Richfield Company, 2018. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit Final Butte Reduction Works (BRW) Phase I Quality Assurance Project Plan (QAPP). Prepared by Pioneer Technical Services, Inc. August 28, 2018.

BSB, 2013. Excavation and Dirt Moving Protocol. Butte-Silver Bow, May 2013.

DEQ, 2016. Montana Department of Environmental Quality Waste Management and Remediation Division Solid Waste Section, Guidelines for Licensing One-Time Landfarms for the Remediation of Hydrocarbon Contaminate Soils. Rev. 3/2016.

DEQ, 2018. Montana Risk-Based Corrective Action Guidance for Petroleum Releases, Montana Department of Environmental Quality, May 2018. Available at this site [http://deq.mt.gov/Land/statesuperfund/rbca\\_guide](http://deq.mt.gov/Land/statesuperfund/rbca_guide).

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| <input type="radio"/> Design Deficiency                        | <input type="radio"/> Material Substitution      |
| <input checked="" type="checkbox"/> Engineering Change Request | <input type="radio"/> Vendor Material Deficiency |
| <input type="radio"/> Agency Directive                         | <input checked="" type="checkbox"/> Scope        |
| <input type="radio"/> Construction Deficiency                  | <input type="radio"/> Clarification/Information  |
| <input type="radio"/> Schedule                                 | <input type="radio"/> Other                      |



RESPONSE/DIRECTIVE

Project Manager Karen Helfrich Date 6/17/2019.

Atlantic Richfield Co. Representative Mike Borduin Date 6/17/2019.

EPA Representative \_\_\_\_\_ Date \_\_\_\_\_.

DEQ Representative \_\_\_\_\_ Date \_\_\_\_\_.

CC: Josh Bryson (Atlantic Richfield)  
Karen Helfrich, Mike Borduin, Scott Sampson (Pioneer)  
Nikia Greene (EPA)  
Daryl Reed (DEQ)  
Jon Sesso, Eric Hassler (BSB)  
RFC Log Book

